Tourism development as a sustainable rural activity

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Keywords: sustainability, climate change, tourism development, sustainable rural activities, local adaptation portfolio.

SUMMARY FINDINGS, CONCLUSIONS, RECOMMENDATIONS

The subject of the analysis is the Lake Tisza region. This region was chosen because it is rich in natural values coupled with economic and social problems and a significant Romani population, making it suitable for the complex evaluation of interdependences.

I am investigating the contribution of development to sustainability, taking into account the local connections and interactions between sustainability, climate change and tourism. The purpose of this paper is to highlight the possible role of tourism in sustainable rural development and outline an adaptation portfolio accordingly.

A questionnaire-based survey was carried out from June to December 2008 to highlight the major uncertainties in the practical implementation of local sustainability in the examined area. In 2009 the results of my survey were used for a grant application for the Lake Tisza region. As it turned out at the very beginning of 2010, it was a successful process, thus my survey contributed to fostering sustainability at the local level indeed.

Sustainable rural activities play a major role in rural development. Under the right circumstances, tourism can be a useful component of sustainable rural activities. The results of my survey underpinned the importance of tourism development in the examined area. It is crucial to take the natural resources and their preservation into account, because only based upon these natural values is it possible to move towards sustainable rural micro-regions. On the other hand it is necessary to deal with the possible impacts of climate change also in tourism development. Furthermore, adapting to the possible effects of climate change has a significant impact on tourism. To sum up, it is imperative to develop a local adaptation portfolio at the Lake Tisza in the context of tourism development as a sustainable rural development activity. The key steps of this process are presented in this paper, based on the investigations so far.

INTRODUCTION

The significance and relevance of sustainability is not to be contested, as it is clear that the anomalies in natural cycles and the reproduction of goods endanger human existence. The examinations suggest that among the dimensions and levels of sustainability, it is likely that on a local level, progress is easier, as it can be assumed that in a small region or community, the practical implementation of sustainability is a vital challenge to those living there. This is why I have chosen the micro regional, settlement level, trying to find out how sustainability can be implemented and enforced in a region rich in natural values taking into consideration ecotourism as a sustainable rural activity.

The subject of the analysis is the Lake Tisza region, which is extremely rich in na-

tural values (protected, Ramsar sites, Natura 2000 areas, Lake Tisza, Tisza river), coupled with economic and social problems and a significant Romani population. Due to these conditions is this area suitable for a complex examination.

As contained in the Assessment Reports of Intergovernmental Panel on Climate Change (*IPCC[1] TAR[2], 2001; IPCC FAR[3], 2007*) one of the greatest threats to implementing sustainability is climate change. Regarding to this, the examinations are focusing on the local interrelations among sustainability, climate change and tourism.

THEORETICAL BACKGROUND OF THE RESEARCH

1. Sustainable development and climate change

These days, there is an increased interest in the topics of both sustainability and climate change (*EU SDS[4], 2006; SEG[5], 2007*). The most diverse views, facts and ideas are published related to these two terms, an endeavor and a phenomenon, respectively, which require the harmonization of viewpoints, co-operation and common thinking (*Sneddon – Howarth – Norgaard, 2006*). Like sustainability, climate change is also more and more often in the focus of attention and discussions (*SEC (2007) 1417*). Despite the fact that the causes connected with climate change are still debated, as well as the phenomena of global climate change, the examinations have shown in accordance with the principle of precaution, *action is needed on behalf of the local citizens towards prevention and mitigation of damages or towards the adaptation to climate change emphasizing related synergic effects.*

However, even everyday people have the bitter experience of the increased frequency of weather anomalies both abroad and within the country, with damages becoming increasingly evident, even quantifiable, using different damage calculation methods. From the viewpoint of both sustainability and climate change, a holistic approach is needed to be able to examine the interactions and to find the possible solutions (*Csete M., 2008*). According to the IPCC Reports climate change can be one of the greatest threats to sustainable development. Nevertheless, the third IPCC Report emphasized in relation to sustainability that it can be an advantage in the mitigation of climate change (*IPCC TAR, 2001; IPCC FAR, 2007*).

This study focuses on the interactions between the terms mentioned above. *In the examined area it is important to deal with these global phenomena to be able to promote sustainable rural development.*

2. Adaptation and mitigation of climate change

Societies have always had to respond to climate variability and extreme weather events. Many have developed ways of coping with floods, fires and droughts. Recent experience of weather extremes has given these efforts new motivation within countries as well as at the European level and all over the world. Whilst climate change is a new driver for action, mitigation and adaptation will in many cases be implemented by regulatory modifications of the existing policy frameworks for floods, droughts and the management of water quality.

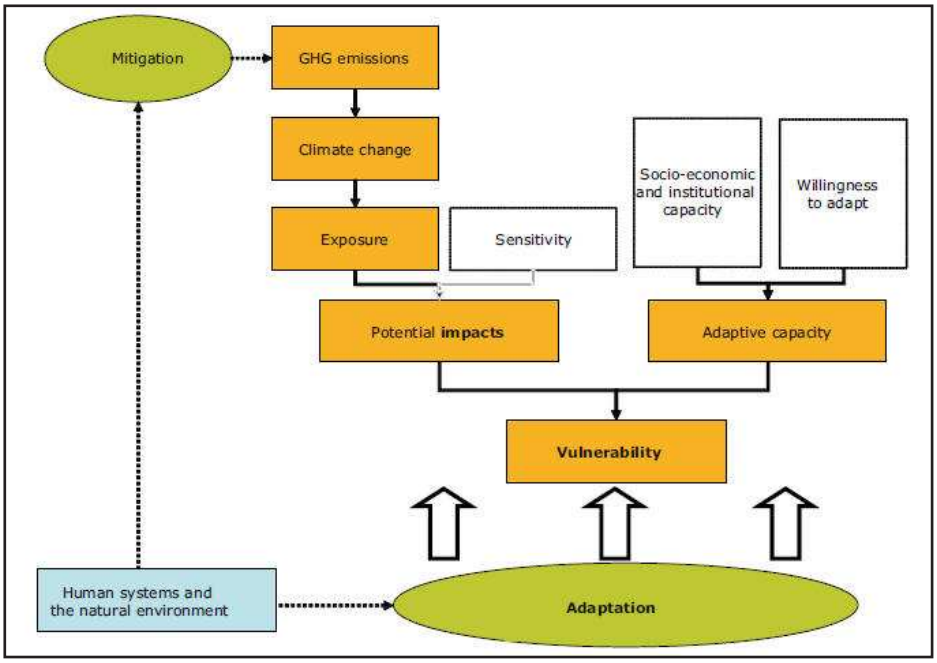
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[1] IPCC: Intergovernmental Panel on Climate Change, an intergovernmental climate change panel, established by the World Meteorological Organization and the United Nations Environmental Programme in 1988.
[2] IPCC TAR: Third Assessment Report of the Intergovernmental Panel on Climate Change, 2001
[3] IPCC FAR: Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007
[4] EU SDS: European Union Sustainable Development Strategy
[5] SEG: Scientific Expert Group on Climate Change

All these symptoms can lead to significant impacts also on the tourism sector. The vulnerability of different tourism destinations is usually depending on the strengths of the potential impacts and also on the adaptive capacity of the area.

Figure 1

Conceptual model for climate change impacts, vulnerability and adaptation



Source: EEA (2008), Chapter 6.

Adaptation to climate change takes place through adjustments in human and natural systems to reduce vulnerability in response to observed or expected changes in climate and associated extreme weather events (*SEC (2007) 849*). It involves changes in perceptions of climate risk and in social and environmental processes, practices and functions to reduce potential damages or to take advantage of new opportunities. Adaptation is a cross-sectoral, multi-scale and trans-boundary issue, which requires comprehensive and integrated modeling methodologies (Fig. 1; *Uhel – Isoard, 2008*).

Mitigation refers to actions that are able to reduce the man-made causes of climate change e.g. reducing emissions of greenhouse gases, such as CO_2, through energy efficiency and using sustainable solutions of transport and energy. Both adaptation and mitigation efforts are essential part of addressing challenges and opportunities associated with climate change.

Mitigation and adaptation are closely related and should be considered together rather than separately. *Sustainable tourism can also play an important role both in adaptation and mitigation strategies* according to the precautionary principle causing several positive externalities and synergic effects.

3. Climate change and tourism

Investigating the relations of climate change and tourism became a prominent area of research only in the 1980s, but earlier works dealing with these issues have

been published, paving the way for future research. The first international conference to deal with tourism and climate change was organized by the WTO[6] on 9-11 April, 2003 in Djerba, Tunisia. An important output of the conference was the "Djerba Declaration on Tourism and Climate Change" calling on stakeholders and experts in the field to conduct research, support the efforts to make tourism more sustainable and to raise awareness about the topic. The venue for the second such conference was Davos, Switzerland (1-3 October, 2007). Moreover in 2009, WTO and UNEP[7] published a report titled "Climate Change and Tourism. Responding to global challenge".

The number of publications on tourism and climate change started growing from 2000 onwards, as international organizations, the WTO and the Environmental Programme of the UN started to realize the strategic importance of the topic. On a global level, this process is catalyzed by developing countries vulnerable to climate change, whereby they consider tourism to be one of their possible windows of opportunity from an economic perspective. However, climate change will likely have a more profound on these countries. Similarly to climate change, the development of mass tourism also threatens the natural resources and cultural heritage determining the attractiveness of tourist destinations. Therefore, *sustainable, soft and ecotourism have also become important and preferred areas of development*. Apart from forecasting political, social and demographic changes, analyzing the effects of climate change on tourism is thus also necessary for defining these areas (*Budai, 2003*). This is pivotal for adaptation and mitigation related to the environmental impacts resulting from mobility and accommodation demands, as well as other activities at the destination.

Reviewing the national and international literature, it is clear that the integrated, complex analysis of the factors determining tourism is incomplete, as the studies dealing with climate change merely mention the role of other factors. A UNEP study published in 2008 provides the most comprehensive and holistic analysis of the relationship between climate change and tourism distinguishing between direct, indirect mitigation-related and social effects. Analyzing the effects of climate change is mostly limited to direct impacts resulting from the changes in climate as a natural resource. Forecasting social, political and economic effects holds the most uncertainties, as the opportunities for quantitative forecasts is quite limited, and the methodology is less developed and sophisticated.

SUSTAINABILITY, CLIMATE CHANGE AND TOURISM DEVELOPMENT IN LAKE TISZA REGION

In 2003 the Hungarian Ministry for Environment and Water Management and the Hungarian Academy of Sciences have launched a joint research project of the title of "Global climate changes, Hungarian impacts and responses". This project meant the conceptual basics of the Hungarian National Strategy for dealing with climate change. The Hungarian Climate Change Strategy (2008-2025) is focusing on three main areas as mitigation efforts, adaptation possibilities and climate consciousness in the different economic sectors. *It can be stated that the tourism sector does not get enough attention in the above mentioned*

[6] WTO: World Tourism Organization
[7] UNEP: United Nations Environmental Programme

strategy. Research is in progress related to climate change and tourism in Hungary. The results will be useful to the first review of the Hungarian Climate Change Strategy implemented this year.

The ratio of rural areas exceeds the EU average, which results in higher exposure and vulnerability relating to climate for example, than in case of other type of territories. A related UN document (*SEG, 2007*) indicated Hungary, taking the effect of climate change on biodiversity into consideration, as one of the most vulnerable countries in Europe. *The possible impacts of climate change on the natural environment are crucial especially when implementing sustainable tourism*.

The subject of the analysis is the Lake Tisza region and the 73 settlements in the Regional Development Council of Lake Tisza. This region has been selected because it is rich in environmental values, coupled with economic and social problems and a significant Romani population, making it suitable for the complex evaluation of the interdependences. I have selected and used several methods, but it has become clear that comparative analysis based on questionnaires is the most suitable. I have distributed *73 questionnaires to the local municipalities in the Lake Tisza region for the analyses, of which 38 were processed*. The survey was carried out from June to December 2008. It took a long time to get back useable answers and information from the local governments, which could have been a correct basis for scientific conclusions. Several settlements did not respond, others provided feedback that was unsuitable for processing. Topics covered by the 26-page questionnaire are the following:

1. General data (5 main questions);
2. Natural environment, resources and their utilization (31 questions);
3. General, social and economic characteristics of the settlement (21 questions);
4. Institutional, organizational background (5 questions);
5. Main barriers of development (8 questions);
6. Climate change and weather conditions (32 questions);
7. Views on a liveable countryside and settlement (in accordance with the New Hungary Development Programme).

My research focused on how sustainability can be implemented for the liveable settlement, environment and countryside. Determining the answer is complicated by the fact that the analyzed region is underdeveloped (Lake Tisza region) and a holiday resort of exceptional significance. It is characterized by social tensions and is rich in protected natural values. I have strived for exploring the real starting situation of the micro-region in my research. This predetermines the goals of sustainability and the possibility of implementation. It is important to learn what the locals think of their environment, Lake Tisza and the utilization possibilities of natural resources.

TOURISM AS AN ELEMENT OF SUSTAINABLE RURAL ACTIVITIES

The basic requirements for perpetual rural development, according to *Csete L. – Láng I. (2009)*, have three main elements, as

– sustainable activities;
– sustainable consumption;
– and sustainable settlement.

The system of sustainable rural activities is complex (*Csete L. – Láng, 2009*). *In terms of tourism development it can be stated, it is a useful sustainable rural activity in case it is harmonized*: firstly with the regeneration of natural resources, secondly with the assimilation capacity of the environment and thirdly with the main goals of local stakeholders. *Furthermore tourism can play a significant role in sus-*

tainable consumption and also in the development of sustainable settlements.

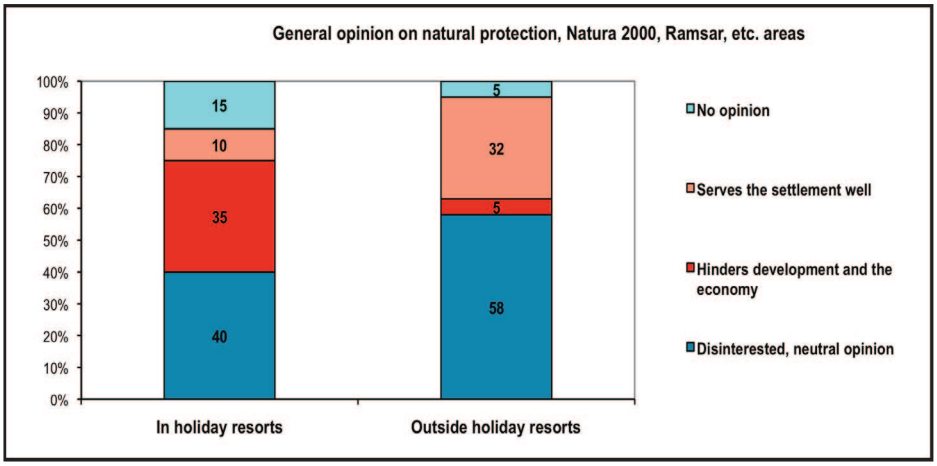
The possible effects of climate change also have impacts on tourism as a sustainable rural activity. In this case, there is a *special focus on the local adaptation strategies*. It is possible to integrate adaptation into tourism development to foster the practical implementation of sustainable rural development. *A local tourism adaptation strategy can imply all the basic requirements of above mentioned three aspects*, such as sustainable consumption, sustainable settlements, sustainable activity.

Lake Tisza is an important tourism destination with unique natural environment, where in parallel it is possible to satisfy the demand of visitors searching for sport-, conference-, eco-, adventure and other kind of tourism. *Sustainable tourism plays an important role in finding the break-out points for the rural settlements*. The artificially created lake (*Kiskőre aquifier, 1970*) is the second largest one in Hungary, which has a very important role in flood protection, in water storing, in protection of water quality, recreation, farming systems and in the conservation of biodiversity. Another speciality of this 2262 km² area is that one third of it belongs to two different National Parks. What the result of these special circumstances, facilities is in the reality is another question. It depends on local population of the affected 73 settlements.

Among the dimensions of sustainability, the preservation of natural values and resources is of the utmost importance. This realisation may be controversial in the eyes of the public struggling with day-to-day problems.

Figure 2

General opinions on valuable natural areas



Source: own survey (Csete M., 2009), (n=38)

The results of the analysis show that the public is mostly disinterested in valuable natural areas, even though this is an important dimension of sustainability, a long-term local and social interest (Fig. 2). It is clear that the possibilities in natural resources have done little to help overcoming economic and social problems in the region.

This fact, also impacting adaptive capacity, is not favorable to sustainable tourism, and the situation is further complicated by the expected effects of climate change.

Table 1

Opinion on the development efforts related to tourism

Category	In holiday resorts (%)	Outside holiday resorts (%)
Development planned	78	68
Development not planned	22	32
Total	100	100

Source: own survey (Csete M., 2009), (n=38)

As the analysis shows (Table 1), tourism is supported everywhere, with the exception of four settlements. While activities complementing each other and synergic effects are more secure, it does not even occur to stakeholders that the water supply of Lake Tisza may become uncertain. *Warming increases the danger of evaporation, eutrophication, siltation and the degradation of water quality. This is an important uncertainty and risk factor.*

The ecotourism development and the number of visitors are increasing at Lake Tisza (Table *2*).

Table 2

Number of visitors at Lake Tisza interested in ecotourism

Developments	2006	2007	2008
Lake Tisza Walkway at Poroszló	18 000	27 000	30 000
"Tiszavirág" Footpath at Tiszaörvény	-	4 500	8 600
Erdőtelek Arboretum	4 303	4 607	5 200

Source: Tisza-tavi Turisztikai Projekt Iroda, 2009 (In Csete L.-Láng I., 2009)

From 2005 onwards, considerable ecotourism developments have been initiated at Lake Tisza. An example of that would be the construction of Eco-Centre at Poroszló created in cooperation by Károly Róbert College and the municipality of Poroszló. This is the largest tourism related investment in the area of Lake Tisza. Europe's largest water aquarium with a capacity of 600 000 litres is being constructed in conjunction with the existing Lake Tisza Walkway at Poroszló (*Reményik, 2009*).

The possible impacts of climate change increase the vulnerability of the examined area. For instance in 2003 and 2007 local people got a sample of the collateral effects of climate change: global warming, drying and extremes. In 2003, frosts, then flood, inland water and drought caused problems. In 2007, early warming, then cooling and frost, was followed by the most extreme summer with three heat waves. *These phenomena have different effects also on tourism sector and it is especially questionable in case of nature and water based tourism at Lake Tisza*.

Natural resources basically can serve sustainability, the adaptive capacity of closer and broader community in two different ways.

Firstly, natural environment can be used as natural resource (River Tisza, Lake Tisza, the protected areas, the connected sights, the mood of the lake, camps). It is necessary to organize and supply the examined settlements working together connected tourism programs and services. On the other hand the solution means the conservation of protected areas conveniently the long term interest of the society. Therefore it is important to make the local people interested in enjoying the natural facilities of their environment and not to feel like it would be a limiting factor, but a positive contribution to improve their living conditions. With cooperation among the settlements it is possible to utilize thermal water resources with different goals (medical, wellness tourism, under glass or walk in plastic tunnel farming, beaches, heating of flats and common buildings etc.). The creation of medical, curative- and wellness destinations can only be successful, if there are connected services, programs, local specialties (foods, drinks, customs, traditions etc.) and pleasure grounds with competitive prices. *Based upon it is necessary to develop a local adaptation portfolio related to tourism development as a sustainable rural development activity.*

The first step to create an adaptation portfolio is to collect all the relevant adaptation options, in this case focusing on the tourism sector. For instance, adaptation options in case of a destination with growing water supply shortages may be, for instance, water conservation programs at resorts, fee structure of water use, limit new tourism development, mandatory onsite water collection and storage systems etc.

*The other part of the adaptation portfolio is the criteria of evaluatio*n, to be able to compare the different adaptation options. It is recommended that local stakeholders should select the specific set of criteria to be used and develop a weighting scheme by rating the importance of each aspect. Evaluation criteria can be e.g. costs, effectiveness, acceptability to local stakeholders, capacity to sustain, timeframe, potential environmental and social impacts, ease of implementation, role in sustainable rural development etc.

The collected adaptation options and the evaluation criteria can be summarized *in a frame of an evaluation matrix that can support local decision making processes enhancing sustainable rural activities.*

In the interest of preparing for climate change it is expedient to develop an action plan to help preparation, prevention, alleviation and reconstruction so that possible courses of action will be clear to all. Developing local measures for saving energy, increasing efficiency and using alternative energy sources are equally important in preparation and decreasing living costs, with special emphasis on investments and development.

Human health, the security of food supply and water supplies are critical among the effects of climate change. Water is especially important, since the study shows that people in the region are extremely optimistic about water supply and quality perspectives.

The existence of Lake Tisza and natural values justifies reviewing the status of and making suggestions for the future of water resources, water protection, alternative solutions and the rational use of groundwater, thermal water and irrigation.

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